

anatomically unisexual, yet functionally I believe it to be so. Having observed numerous individuals and pairs, I am able to say that the female is constantly larger than the male.

I may add a word as to the best method of killing these mollusks. If placed in a sort of vapour-bath or in a vessel of water, and heated very slowly and gradually, they die painlessly and in a condition with the tissues relaxed much more suitable for the purposes of the anatomist than if killed by immersion in hot water or in any acrid fluid. When it is desired to preserve the shell in a perfectly clean condition, the whole should, after the animals are dead, be boiled so that the soft parts may readily come away from the shell.

4. Descriptions of new Species of Lepidoptera Heterocera from Brazil, Mexico, and Peru.—Part I. By W. SCHAUS, F.Z.S.

[Received March 16, 1892.]

The following descriptions are all taken from specimens in my own collection, and those of the Brazilian and Mexican species were chiefly collected by myself.

Fam. AGARISTIDÆ.

OTHRIA MERIDIONALIS, sp. nov.

Velvety black; the primaries with a narrow transverse band of a creamy white, extending from the middle of the subcostal vein to close to the inner angle. Underneath the transverse band is slightly wider than on the upper surface.

Expanse 34 mm.

Hab. Petropolis, Brazil.

Fam. ZYGÆNIDÆ.

HARRISINA JANEIRA, sp. nov.

Dull greenish black; the second and third abdominal segments bright red.

Expanse 26 mm.

Hab. Petropolis, Brazil.

HARRISINA DANTASI, sp. nov.

Dull black; a bright orange spot on either side of the collar.

Expanse 21 mm.

Hab. Novo Friburgo, Brazil.

HARRISINA EMINENS, sp. nov.

Bluish black; the base of the wings yellow and on the primaries a yellow mark crossing the wing from the subcostal vein at about two thirds from the base and extending to the outer margin just above the inner angle; this mark is somewhat in the shape of a T,

having the upper portion along the subcostal vein. At the base of the abdomen a short lateral yellow streak.

Expanse 28 mm.

Hab. Tijuca, Brazil.

This species bears a very strong resemblance to *Dycladia correbioides*, Felder.

EUPYRA PSITTACUS, sp. nov.

Primaries above dull metallic green, with the outer margin broadly black; underneath bright metallic green, except the apical third which is black. Secondaries above black, the costal margin bright metallic green, and the inner margin shot with bluish green; underneath bright metallic green, with a very narrow black outer margin. Head and thorax black; a white spot behind the eyes, and six white spots on the thorax. Abdomen above black, with a subdorsal row of white spots, the one on the first segment being much larger than the others; laterally metallic green; underneath brownish black, with two rows of large white spots. Coxæ white. Antennæ black.

Expanse 41 mm. Four males.

Hab. Peru.

EUPYRA CONSORS, sp. nov.

Primaries above dark green with a golden tinge, the outer margin broadly black; near the end of the cell a small hyaline spot; underneath the same as above but of a brighter metallic green, and there is a second small spot denuded of scales just beyond the cell, and in some specimens a third similar spot below the middle of the median vein. Secondaries above black, the costal margin bright green, at the base of the inner margin a small white spot and a small semihyaline streak in the cell; underneath bright green, with the spots as above and a narrow black outer margin. Thorax black, with white spots as in *E. psittacus*. Abdomen above black, golden between the segments, and a subdorsal row of small white spots; laterally golden; underneath brown, with an outer row of white spots.

Expanse 44 mm.

Hab. Peru.

EUPYRA AURATA, sp. nov.

Wings above dull golden green. The inner margin of the secondaries black. Underneath the same as above, with the apex and the outer margin of the primaries dark brown. Head black, two small white spots on the frons and a similar spot behind each antenna. Thorax black with white spots. Body golden, with a black subdorsal band and a narrow black transverse line separating each segment; laterally a broad brown band with a row of large silver spots; dorsally there are two small white spots on the first segment.

Expanse 42 mm. Two females.

Hab. Peru.

EUPYRA BACCHANS, sp. nov.

Primaries above dark green, with a broad black outer margin and a white spot at the base of the costa; underneath the wings are more of a dull golden green, the outer margins blackish brown. Secondaries above black, a few dark green scales between the second and third median nervules; underneath golden green. Antennæ black with white tips. Thorax black, two white spots mingled with bluish scales on the collar and similar spots on the thorax. Abdomen black, a subdorsal and two lateral rows of small white spots, each spot having anteriorly a cluster of bright blue scales.

Expanse, ♂ 45 mm., ♀ 48 mm.

Hab. Peru.

ISANTHRENE GAZA, sp. nov.

Primaries yellowish hyaline, darker along the costal and inner margins; the outer and inner margins with a very narrow black border, the apices broadly black; at the base of the wings a few blue scales. Secondaries above yellowish hyaline, the outer margin very narrowly bordered with black, the inner margin very narrowly orange; underneath the same as above, with the costal margins of a much deeper yellow. Frons orange. Metallic blue spots at the base of the antennæ. Collar orange, with two black spots having bright blue centres. Tegulæ orange inwardly, black outwardly. Thorax black, with two patches of metallic blue scales. Abdomen above with the first segment yellow, the following segments orange with two rows of transversely elongated metallic blue spots bordered with black, the black meeting subdorsally; these spots are placed on the posterior portion of each segment; laterally are similar blue and black markings; underneath abdomen pale yellow.

Expanse 37 mm. ♀.

Hab. Peru.

GYMNELIA SERRA, sp. nov.

Primaries yellowish hyaline, the margins broadly bordered with black. A black mark at the end of the cell. Secondaries whitish hyaline, the outer margin broadly black. Antennæ, head, and thorax black; two small dark metallic blue spots on the collar. Abdomen velvety black, with a lateral row of dull red spots separated by clusters of dark metallic blue scales.

Expanse 40 mm. ♀.

Hab. Rio Janeiro, Brazil.

PSEUDOMYA PELLUCIDA, sp. nov.

Male. Primaries with the basal half semihyaline, black, the apical half hyaline. Secondaries hyaline, a few dark scales along the costal margin. Body black, subdorsally velvety black.

Expanse 20–24 mm.

Female. Primaries entirely semihyaline black. Secondaries slightly more transparent. Body as in the male.

Expanse 29 mm.

Hab. Rio Janeiro, Brazil.

PSEUDOMYA TIJUCA, sp. nov.

Female. Primaries semihyaline black. Secondaries hyaline, darker towards the outer margin. Head black; thorax orange; abdomen black above, whitish underneath.

Expanse 30 mm.

Hab. Tijuca, Brazil.

PSEUDOMYA MUSCA, sp. nov.

Wings black, semihyaline and iridescent. Head, thorax, and first abdominal segment black; abdomen otherwise bright yellow. The sexes are similar.

Expanse 23 mm.

Hab. Jalapa, Mexico.

COSMOSOMA HARPALYCE, sp. nov.

Primaries hyaline, the inner and outer margins very narrowly black, the apex broadly black, a black spot at the end of the cell. Secondaries hyaline, the outer margin narrowly black, more widely so at the apex and along the inner margin. Antennæ, head, and thorax black, the latter reddish outwardly. Abdomen above dull black, with two reddish spots at the base; underneath yellowish, except the last two segments, which are black.

Expanse 34 mm.

Hab. Petropolis, Brazil.

DYCLADIA CATHERINA, sp. nov.

Wings hyaline, the apices black, the margins very narrowly black. Antennæ, head, thorax, and abdomen black. A large crimson spot on each side of the thorax, and a round crimson spot on each side of the fourth segment of the abdomen.

Expanse 26 mm. ♂.

Hab. Santa Catharina, Brazil.

DYCLADIA ROGENHOFERI, sp. nov.

Wings hyaline. Primaries with the apices and fringe black; little yellow at the base of the wing. Frons white. Head, thorax, and abdomen bright yellow, with a subdorsal black line.

Expanse 19 mm.

Hab. Petropolis. Brazil.

This species is most closely allied to *Dycladia felderi*, Druce, but differs in the subdorsal markings and the smaller extent of black at the apices of the primaries.

DYCLADIA EPIMETHEUS, sp. nov.

Wings hyaline, with the margins rather broadly black, especially the apices; base of the primaries red; a small black mark at the end of the cell of the same wing. Head black. Thorax and base of the abdomen, laterally, red; abdomen otherwise black.

Expanse 25 mm. ♀.

Hab. Novo Friburgo, Brazil.

DYCLADIA BROTEAS, sp. nov.

Primaries hyaline, the outer margin broadly black, the inner margin narrowly so, a small black spot at the end of the cell; the hyaline portion of the primaries is white crossed by black veins, until the end of the cell, beyond which and up to the marginal border the hyaline portion is yellowish with orange veins. Secondaries hyaline, the outer margin broadly black. Head and thorax black, collar and tegulæ crimson. Abdomen black, laterally crimson, dorsally on the first segment are two conspicuous silvery-white spots.

Expanse 22 mm.

Hab. Santa Catharina, Brazil.

ARGYROEIDES MAGON, sp. nov.

Wings yellowish hyaline, fringe black. Body black.

Expanse 29 mm.

Hab. Santa Catharina, Brazil.

TRICHURA CYANEA, sp. nov.

Wings hyaline, yellowish along the costal margins, and narrowly bordered with black on the outer and inner margins. A minute blue spot at the base of the primaries. Antennæ black. Frons metallic blue. Thorax black; two metallic blue spots on the collar. Abdomen black; subdorsal blue spots on the first three and the last segment. Underneath, at the base of the abdomen, two silvery-white streaks. Legs black outwardly, dark metallic blue inwardly.

Expanse 38 mm.

Hab. Petropolis, Brazil.

SYNTRICHURA DOERI, sp. nov.

Wings hyaline. Primaries narrowly margined with black. Secondaries having only the costa and apex black. Head and thorax black, with a yellow lateral streak. Abdomen black, with a lateral row of yellow spots. Abdomen below whitish.

Expanse 21 mm. ♂.

Hab. Petropolis, Brazil.

Fam. ARCTIIDÆ.

ACLYTIA PETRA, sp. nov.

Primaries brownish black, with all the veins clearly defined. Secondaries hyaline, with a broad black margin. Head and thorax black; a metallic blue spot between the antennæ. Abdomen dorsally black, laterally metallic blue, underneath white. Legs black; joints and coxæ white.

Expanse 32 mm.

Hab. Peru.

ACLYTIA HECALE, sp. nov.

Primaries dull black, faintly hyaline in the disk and darkest on the margins and at the end of the cell. Secondaries hyaline, with a broad black margin. Antennæ, head, and thorax black; two crimson spots behind the antennæ. Abdomen black, with a lateral band of metallic blue. Base of all the legs bright crimson.

Expanse 39 mm. ♀.

Hab. Petropolis, Brazil.

CHARIDEA INACHIA, sp. nov.

Female. Primaries above velvety black, with a large orange space extending in its anterior portion from the base along the subcostal vein to beyond the cell, and posteriorly along the submedian vein to close upon the inner angle, and divided by two black lines, one just below the median vein, the other just above the submedian; a small black transverse mark at the end of the cell. Secondaries velvety black. Underneath black, with a large triangular orange spot on the primaries. Head and thorax black. Abdomen above steel-blue, with two black dorsal lines; underneath black.

Expanse 33 mm.

Hab. Petropolis, Brazil.

METRIOPHYLA LENA, sp. nov.

Primaries above velvety black, fringe white; the basal third of the costal margin narrowly white. Secondaries above black, glossed with dark blue; the outer margin narrowly, the apex broadly, white. Underneath: wings black, glossed with dark blue; the apices and outer margins white. Antennæ black. Head crimson. Frons white. Thorax black, with a white spot on either side. Abdomen black above, tinged with dark blue; underneath black, with a white ventral line. Anus crimson. Legs black exteriorly, white inwardly.

Expanse 36 mm.

Hab. Peru.

AUTOMOLIS ELISSA, sp. nov.

Wings pale yellow, secondaries slightly hyaline. Head orange. Collar and thorax yellow. Abdomen dorsally black, except fourth and fifth segments, which are orange with two black subdorsal spots; abdomen laterally and underneath orange, with three lateral black spots on the third, fourth, and fifth segments.

Expanse 54 mm. ♀.

Hab. Rio Janeiro, Brazil.

GALETHALEA PERUVIANA, sp. nov.

Male. Primaries above white, shaded with greenish grey; along the costal margin five large irregular black spots, also three similar spots on the inner margin and three small black spots on the outer margin; underneath the spots are suffused and occupy nearly the entire wing, forming a broad submarginal band. Secondaries above

white, slightly hyaline, the apex broadly, the outer margin faintly, clouded with black; underneath the same, with a long black spot on the costal margin. Antennæ black, with a broad white space near the base and also near the tip. Head white. Thorax white, spotted with black. Abdomen above brown, the last three segments yellow with subdorsal black spots; underneath white. Anus black.

Expanse 32 mm.

Hab. Peru.

CTENUCHA AZTECA, sp. nov.

Primaries brownish green. Secondaries bluish black. Fringes on all the wings white. Head and thorax black, collar crimson. Abdomen dark metallic blue. Anus crimson.

Expanse 38 mm.

Hab. City of Mexico.

Very closely allied to *Apistosia terminalis*, Walker.

THEAGES VESTALIS, sp. nov.

White; wings semihyaline, slightly iridescent.

Expanse 22 mm.

Hab. Peru.

EUCEREON LADAS, sp. nov.

Male. Primaries grey; the veins, a median and a marginal angulated band, some streaks between the veins on the extreme margin, and a few shades at the base of the wings dark brown; there is a minute spot in the middle of the cell connected with a similar spot at the end of the cell by a fine black line. Secondaries dark brown. Head and thorax grey, with brown spots on the collar. Abdomen brown dorsally, the last three segments yellow; underneath two white streaks.

The female is paler on the primaries, and the secondaries are greyish with darker margins.

Expanse 28 mm.

Hab. Rio Janeiro, Brazil.

AMAXIA HEBE, sp. nov.

Male. Primaries above pale yellow, a large purplish-brown spot broadly bordered with roseate occupying the base of the wings for one third from the base along the subcostal vein, and the entire inner margin, except a small yellow spot about the middle of the inner margin. At the apices two small brownish spots surrounded by roseate. The intermediate yellow space with widely separated and very small indistinct pinkish spots. Secondaries above slightly hyaline, rose colour, whitish along the costal margin. Underneath whitish, the base of the primaries roseate, the apical spots smaller than on the upperside. Head yellow above, crimson underneath. Collar yellow, thorax and abdomen dorsally crimson; underneath whitish.

Expanse 33 mm.

Hab. Rio Janeiro, Brazil.

AMAXIA PYGA, sp. nov.

Female. Primaries above pale yellow; the entire basal portion to the inner angle, except the costa, purplish brown, faintly mottled with red, especially on the veins and the margins of this dark space; four elongated brown spots, exteriorly shaded with red, at the apex; a marginal row of small brown spots, and a few other similar minute spots scattered over the yellow portion; underneath pale yellow, with the entire inner margin and base, except the costa, dull brown; four brown spots at the apex. Secondaries above brown, the costal margin and apex yellow; underneath yellow. Head and collar yellow. Thorax and abdomen dorsally brown. Abdomen underneath white. Legs yellow.

Expanse 33 mm.

Hab. Rio Janeiro, Brazil.

SCAPTIUS JUNO, sp. nov.

Female. Primaries pale purplish brown, a white spot at the base near the inner margin, beyond this a transverse yellow band from the subcostal to the submedian vein, and on this band is a wavy reddish line; close beyond it and just above the inner margin are three small yellowish spots; a submarginal row of four hyaline spots and a marginal row of small irregular yellow spots. Fringe alternately yellow and brown. Secondaries roseate, fringe yellow. Head yellow. Thorax brownish. Abdomen fawn-colour.

Expanse 39 mm.

Hab. Petropolis, Brazil.

IDALUS ORTUS, sp. nov.

Female. White, the disk of the primaries slightly iridescent, a few black specks at the base of the primaries, and some short black marks just beyond the cell, a conspicuous black dot near the outer margin below the apex. Head and thorax white, pinkish between the antennæ. Abdomen white, dorsally shaded with pink.

Expanse 37 mm.

Hab. Rio Janeiro, Brazil.

AMELES BYBLIS, sp. nov.

Primaries above dark brown, a space at the base, and a large subapical space on the outer margin, testaceous, with two rows of paler spots. About the middle of the costal margin are two nearly contiguous testaceous spots, and likewise two about the middle of the inner margin. Secondaries above blackish, a yellow basal spot on the costa. Underneath dull brown, orange at the base of the four wings, and orange shades along the basal half of the costal and inner margins of the primaries. The subapical patch on the outer margin as on the upperside. Head and thorax yellow, with two broad brown bands. Abdomen dorsally dark brown, laterally yellow, with two rows of black spots; underneath whitish.

Expanse 37 mm.

Hab. Corcovado, Rio Janeiro.

AMMALO THRAILKILLI, sp. nov.

Primaries dark brown, indistinctly mottled with paler scales. Secondaries reddish yellow. Head and thorax brown. Abdomen dorsally red, with transverse black bands; underneath brownish.

Expanse 55 mm.

Hab. Paso de San Juan, Vera Cruz, Mexico.

HALISIDOTA ORUBA, sp. nov.

Primaries above pale fawn-colour, mottled with brown, a brown line extending through the middle of the wing, from the base to the apex, a brown discal spot, a marginal and a submarginal row of brown spots. Secondaries whitish, a row of small spots on the apical half of the outer margin. Head and thorax fawn-colour, with a central brown line. Abdomen fawn-colour dorsally, white laterally and underneath.

Expanse 58 mm.

Hab. Petropolis, Brazil.

SYCHESIA HARTMANNI, sp. nov.

Primaries dark brown, an indistinct wavy submarginal shade. Secondaries black-brown, faintly hyaline in the disk. Head and thorax above brown, an orange spot at the base of the antennæ; thorax underneath orange. Abdomen dorsally black, laterally orange, underneath brown.

Expanse 40 mm.

Hab. Petropolis.

SYCHESIA JANEIRA, sp. nov.

Male. Primaries above light brown, with numerous transverse pale streaks, all the veins orange-brown; secondaries yellowish white, black on the margins. Head and thorax brown, the collar edged with dull orange. Abdomen dorsally orange, the first segment unspotted, the following three with large transverse black spots, the other segments with subdorsal black spots; abdomen underneath brown, wavy along the sides where confluent with the orange. The anus dark brown.

The *female* differs in having the secondaries entirely dull brownish black.

Expanse 52 mm.

Hab. Rio Janeiro, Brazil.

PHÆGOPTERA SCHÄFFERI, sp. nov.

Primaries white, mottled with brown, chiefly across the centre of the wing. Two orange basal spots, beyond which is a broken curved row of orange spots, and orange spots at the end of the cell; two rows of orange spots beyond the cell, and an orange spot at the extremity of each vein. Secondaries whitish, with black margins. Head and thorax brown, spotted with orange. Abdomen dorsally

with the basal half brown, otherwise orange; underneath brown, a lateral row of orange spots.

Expanse 53 mm.

Hab. Petropolis, Brazil.

PHÆGOPTERA PROBA, sp. nov.

Primaries fawn-colour, minutely speckled with darker scales. Secondaries yellow, slightly hyaline at the base and in the disk. Head and thorax brown, two black dots on the collar. Abdomen yellow dorsally, pale brown underneath.

Expanse 80 mm.

Hab. Paso de San Juan, Vera Cruz.

PHÆGOPTERA NOTATA, sp. nov.

Primaries brown, with three large yellowish-white spots on the costal margin. Secondaries whitish, with the veins and margins brown, and a yellow spot at the base on the costal margin. Head and thorax brown; two yellow dots on the collar, and a large yellow spot on either side of the thorax. Abdomen black dorsally, with narrow crimson transverse bands; underneath brown, with two rows of white spots.

Expanse 51 mm.

Hab. Petropolis, Brazil.

PHÆGOPTERA GRANIFERA, sp. nov.

Primaries dark brown, crossed by six rows of yellowish-brown spots; a small white space at the base, another on the middle of the costal margin, and a third subapical. Secondaries uniform blackish brown. Head and thorax brown, spotted with yellow and white. Abdomen dorsally brown on the first four segments, subsequently orange; underneath whitish, laterally orange with some minute whitish spots.

Expanse 45 mm.

Hab. Petropolis, Brazil.

PHÆGOPTERA URSINA, sp. nov.

Primaries rich brown; a large irregular whitish spot at the base of the wings; a whitish spot on the costa at a third from the base, and a large whitish spot extending from the costa just beyond the middle of the wing, and inwardly contiguous to a small pinkish crescent at the end of the cell; an irregular and sometimes broken band of white along the outer margin, extending from just below the apex to the inner angle. Secondaries above duller brown, the costa mottled with white. Underneath pale brown, the spots on the primaries less distinct, and on the secondaries there are two large whitish spots on the costal margin. Head and thorax pale brown, with a broad whitish band on either side. Abdomen above pink, with a subdorsal row of black spots; underneath white; laterally a row of black spots.

Expanse, ♂ 42 mm., ♀ 53 mm.

Hab. Rio Janeiro, Brazil.

ECPANTHERIA PELLUCIDA, sp. nov.

Male. Primaries hyaline, except the base and the costal and inner margins, which are white spotted with grey edged with black. Secondaries hyaline, except along the costal and inner margins, which are white, the costal margin being spotted with black. In some specimens there is a black spot at the anal angle. Head and thorax light grey, with darker spots edged with black. Abdomen dorsally bluish black; ventrally white.

Expanse 55 mm.

The *female* has the body as in the male. The primaries are white crossed by six rows of large grey spots edged with black. The secondaries are black, with the costal and outer margins white spotted with grey, and there is a white band starting from the costal margin beyond the middle and extending halfway across the wing.

Expanse 62 mm.

Hab. Rio Janeiro, Brazil.

CARALE CELER, sp. nov.

Primaries above light brown; a black dot at the end of the cell; a basal and a median irregular transverse row of small and widely separated blackish streaks; a minute blackish streak at the apex and also one at the inner angle. Secondaries above smoky. Underneath: primaries brown; a large dark patch at the end of the cell; the secondaries paler, with a median transverse smoky band. Head and thorax light brown. Abdomen brown dorsally, yellow laterally, light brown underneath.

Expanse 38 mm.

Hab. Rio Janeiro, Brazil.

OPHARUS LUGUBRIS, sp. nov.

Dark grey, the abdomen laterally shaded with pale grey.

Expanse 56 mm.

Hab. Petropolis, Brazil.

OPHARUS MOROSUS, sp. nov.

Primaries grey, a darker shade crossing the cell near its extremity, and a similar undefined shade just beyond the cell. Secondaries white with grey margins. Head and thorax grey. Abdomen very light grey, darker subdorsally.

Expanse 42 mm.

Hab. Peru.

SERMYLA MORTA, sp. nov.

Primaries above brownish black, yellow along the costal margin for two thirds from the base, which yellow is joined at its extremity by an oblique yellow band crossing the wing from the costal margin to the outer margin just above the inner angle; underneath black, with a yellow space at the base, and the yellow oblique band as on the

upperside. Secondaries brownish black. Head, thorax, and abdomen black; yellow spots on the collar, and two on the thorax.

Expanse 60 mm. ♀.

Hab. Petropolis, Brazil.

PERICOPIS MONTEZUMA, sp. nov.

Primaries above brown, paler between the median and submedian veins; on the costal margin a red streak at the base, a yellow spot about the middle, and a little beyond this a second yellow spot; below the first-mentioned yellow spot two vitreous spots; below the second yellow spot also two vitreous spots, and below these again two, but closer to the outer margin: underneath black; the costal margin, apex, and outer margin red; the vitreous spots as on the upper surface, and two whitish spots below the median vein. Secondaries above yellowish white, with a broad black outer margin spotted with yellowish; the costal margin black; underneath as on the upper surface, the black replaced by red except at the anal angle; the marginal spots are larger than on the upper surface and are edged with black. Head and thorax black spotted with yellow. Abdomen dorsally black, with two broad grey stripes; laterally black, with a single grey stripe; underneath yellow. Anus crimson.

Expanse 85 mm. ♀.

Hab. Las Vigas, Mexico.

Probably a variety of *Pericopis humeralis*, Walker, only differing in the secondaries and in being slightly larger than the typical females of *P. humeralis* captured in the same locality.

Fam. LITHOSIIDÆ.

TRICHOMELIA CELENNIA, sp. nov.

Primaries above white, all the veins grey; the costal margin very broadly grey for two thirds from the base; a large grey space on the inner margin near the angle. Secondaries above grey. Underneath all the wings grey. Head and thorax whitish. Abdomen dark grey.

Expanse 23 mm.

Hab. Rio Janeiro, Brazil.

CISTHENE PETROVNA, sp. nov.

Primaries above grey, slightly paler at the base, with the veins darker; a broad white median band, and a white spot at the apex. Secondaries grey; towards the base and along the inner margin yellowish. Underneath: primaries grey; secondaries whitish, with the apex broadly grey. Head grey, collar yellow. Thorax grey. Abdomen yellow.

Expanse 24 mm.

Hab. Petropolis, Brazil.

BRYCEA PERUVIANA, sp. nov.

Wings black; a broad orange longitudinal streak from the base

to nearly the outer margin on both the primaries and secondaries, the former having also a transverse subapical orange spot. Head and thorax black. Tegulæ orange. Abdomen black, orange laterally.

Expanse 35 mm.

Hab. Peru.

ARDONEA METALLICA, sp. nov.

Primaries above greenish black. Secondaries metallic blue. Underneath all the wings metallic bluish green. Head and thorax black. Abdomen dark green.

Expanse 30 mm.

Hab. Peru.

EUDULE VENATA, sp. nov.

Wings orange-red; the primaries with the apex and outer margin black; the subcostal and median veins black; a black streak in the cell, and a long black streak below the median vein; a transverse subapical black line from the costa to the middle of the outer margin. Secondaries with the apex broadly black; the outer margin narrowly black. Body orange.

Expanse 20 mm.

Hab. Peru.

EUDULE AURATA, sp. nov.

Primaries above golden yellow; the subcostal vein and base of median vein black; a large dusky circle on the outer half of the wing connected by a dusky line with the inner angle. Secondaries above golden yellow; an irregular dusky line starting from the base and following the contour of the wing to the anal angle. Underneath the wings are yellow, the costal margin of the primaries black. Body yellow.

Expanse 25 mm.

Hab. Rio Janeiro, Brazil.

Very similar to *Eudule citrosa*, Hübner, which differs in having all the veins along the outer margins black.

Fam. MELAMERIDÆ.

VIRBIA VARIANS, sp. nov.

Primaries above brown; at the base a broad but short longitudinal streak, and beyond this a white spot. Sometimes the spot is absent and at other times absorbed by the longitudinal streak. Secondaries above orange, with broad black costal and outer margins. Underneath the wings are orange, with the costal and outer margins broadly brown. Head and thorax brown. Body orange, black subdorsally and below.

Expanse 31 mm.

Hab. Peru.

Allied to *Virbia brevilinea*, Walker.

VIRBIA PARVA, sp. nov.

Primaries above brown; underneath orange, with brown margins, the outer being the broadest. Secondaries above black; a broad orange band from the base to nearly the outer margin, just below the apex; the inner margin and anal angle narrowly orange; underneath the same as above. Head and thorax brown. Abdomen black dorsally, orange laterally, white underneath.

Expanse 25 mm.

Hab. Peru.

Allied to *Virbia minuta*, Felder.

LYCES MAERA, sp. nov.

Primaries above black; a transverse orange band from the middle of the costal margin to the inner angle; underneath black, the transverse band much broader, and two greyish streaks at the base of the wing. Secondaries above orange; the costal margin narrowly, the outer and inner margins very broadly black; underneath the same, except that the inner margin is also orange, and there is a white streak on the costal margin at its base. Head and thorax black. Abdomen black dorsally; laterally a narrow yellow streak; underneath white.

Expanse 38 mm.

Hab. Petropolis, Brazil.

SCEA SOLARIS, sp. nov.

Primaries black; a large yellow space extending from the base to close to the centre of the outer margin, this space follows anteriorly along the costa to beyond the cell, and then crosses the wing obliquely; the veins and a conspicuous streak in the cell are also black. Secondaries black; a yellow streak beginning towards the end of the cell and extending beyond it. Underside the same as the upper. Body dull black.

Expanse 33 mm.

Hab. Peru.

GANGAMELA AYMARA, sp. nov.

Male. Primaries above bright yellow: the base black; the costal and subcostal veins finely black; the apex and outer margin broadly black; the inner margin narrowly black and glossed with dark blue; underneath similar, except that a portion of the base and inner margin are pearl-white instead of black and there is no blue gloss. Secondaries above black, glossed with blue at the base; yellow towards the apex, which is itself black; underneath pearl-white; the costal margin yellow; the apex narrowly black. Head black, frons white. Thorax dark blue. Abdomen above blue, with a subdorsal yellow line; underneath white.

Expanse 24 mm.

The *female* has the primaries above as in the male. The secondaries above are entirely dull black, glossed with blue at the base and along the inner margin; underneath the pearly white is replaced

by black and the yellow margin of the secondaries is very indistinct. The abdomen is also black underneath.

Expanse 29 mm.

Hab. Peru.

DARNA INCA, sp. nov.

Male. Primaries above velvety black, shaded with metallic blue at the base and along the inner margin; a broad orange band crosses the wing from the middle of the costal margin to nearly the inner angle; underneath as on the upper surface, the inner margin, however, denuded of scales. Secondaries above having the anterior half denuded, greyish, with the male sexual gland; posterior half black; along the inner margin bluish; underneath pale metallic green, the outer margin black. Body metallic blue.

The *female* differs in having the secondaries black, and the metallic colour of the inner margins more extended.

Expanse 35 mm.

Hab. Peru.

FLAVINIA DUBIA, sp. nov.

Primaries black, a large yellow space at the base confined within the subcostal and submedian veins; a large subapical elongated yellow spot. Secondaries yellow, with all the margins black. Underside the same. Body black; thorax and abdomen laterally yellow.

Expanse 34 mm.

Hab. Corcovado, Rio Janeiro.

FLAVINIA DARNA, sp. nov.

Very similar to *Flavinia dubia*, Schaus; the subapical spot smaller in proportion, and it is easily recognized from that species by its smaller size and white abdomen underneath.

Expanse 22 mm.

Hab. Novo Friburgo, Brazil.

FLAVINIA JANEIRA, sp. nov.

Primaries above black, a long yellow spot at the base confined within the median and submedian veins; a subapical roundish yellow spot; the extreme apex white. Secondaries yellow with black margins, except the base of the inner and costal margins; underneath the same. Body black; collar yellow. Abdomen with a lateral yellow stripe and underneath white.

Expanse 34 mm.

Hab. Rio Janeiro, Brazil.

Most nearly allied to *Flavinia approximans*, Walker, but differs in the white apices of the primaries, and the costal margins of the secondaries, which in *F. approximans* are broadly black, with a short yellow basal streak.

FLAVINIA QUICHA, sp. nov.

Primaries black; a basal oblong spot confined within the median

and submedian veins, and an oblong subapical yellow spot; apices faintly tipped with white. Secondaries yellow; the outer margin broadly black; the costal margin yellow; a subcostal ill-defined black band from the base to the apex. Body black; abdomen laterally yellow, underneath white.

Expanse 31 mm.

Hab. Peru.

Closely allied to *Flavinia isis*, Hübner, but has broader margins to the secondaries and is a smaller insect.

FLAVINIA CHIBCHA, sp. nov.

Primaries above black; an oblong yellow spot at the base confined within the median and submedian veins; an elongated subapical yellow spot. Secondaries yellow; the outer margin broadly black, but abruptly narrowing near the anal angle; the costal margin yellow, in most specimens with a black line from the base to the apex; underneath the same, but the black marginal border of the secondaries ceases abruptly before reaching the anal angle. Thorax black; tegulæ orange. Abdomen black dorsally; a yellow stripe laterally; white underneath.

Expanse 25 mm.

Hab. Peru.

MENNIS SCEATA, sp. nov.

Primaries orange; the costa finely, the inner margin narrowly, the apex broadly, and the outer margin black, all the veins finely black. Secondaries black, slightly greyish along the inner margin. Head, thorax, and abdomen black.

Expanse 25 mm.

Hab. Peru.

MENNIS CYTHEREA, sp. nov.

Wings above orange-red; all the veins black; the apex and outer margins of the primaries narrowly black; the costal margin of the secondaries broadly black. Fringe black. Body black.

Expanse 23 mm.

Hab. Peru.

MENNIS UNA, sp. nov.

Red; the costal and outer margins narrowly black on the primaries; also a few black specks on the veins near the apex. Secondaries with only the outer margins black.

Expanse 22 mm.

Hab. Petropolis.

NELO LIPPA, sp. nov.

Primaries above brownish black; a broad orange-red median band from the costa to the submedian vein; underneath dark grey; a large orange spot at the disk. Secondaries above brownish black,

a few clusters of reddish scales about the centre of the wing; underneath dark grey, the veins black; a small orange spot on the costa at its base. Head black, a white streak behind the eyes. Thorax dark brown, a red spot on either side. Abdomen brown, a lateral reddish streak.

Expanse 30 mm.

Hab. Peru.

NELO CAULLAMA, sp. nov.

Primaries red; the costal and inner margin narrowly, the apex and outer margin broadly black. Secondaries black. Body black.

Expanse 30 mm.

Hab. Peru.

MELANCHROIA BRAGANZA, sp. nov.

Primaries velvety black, the veins clearly defined, especially towards the base; a transverse subapical white band. Secondaries black, glossed with dark blue; fringe white. Underneath black, glossed with dark blue; veins on secondaries whitish; transverse white band on the primaries as on the upper surface. Head black above, orange underneath. Thorax blue-black, with a few faint whitish streaks. Abdomen blue-black; white underneath in the male.

Expanse 38 mm.

Hab. Rio Janeiro, Brazil.

Very closely allied to *M. circe*, Cramer.

MELANCHROIA PALMEIRA, sp. nov.

Primaries black; a white subapical elongated spot. Secondaries bluish black; the apex white. Underneath the same. Body black; the abdomen slightly glossed with blue.

Expanse 35 mm. ♀.

Hab. Palmeiras, Rio Janeiro.

Fam. LIPARIDÆ.

AGAREA MINUTA, sp. nov.

Primaries light brownish grey, somewhat hyaline, with all the veins somewhat darker. Secondaries paler and semihyaline. Head and thorax grey. Abdomen yellow, with a row of black subdorsal spots.

Expanse 20 mm.

Hab. Corcovado, Rio Janeiro.

ARCHYLUS MEXICANA, sp. nov.

Pure white, the primaries with the costal margin finely black; a black spot at the end of the cell, and a smaller black spot on the inner margin near the angle. Antennæ orange.

Expanse 25 mm.

Hab. Jalapa, Mexico.

ARCHYLUS VESTA, sp. nov.

Silvery white; the costal margin of the primaries indistinctly brown.

Expanse 18 mm.

Hab. Novo Friburgo, Brazil.

Fam. CERATOCAMPIDÆ.

SYSSPHINX BASIREI, sp. nov.

Primaries above fawn-colour at the base and along the outer margin, the median space darker, and separated from the paler portions by a basal and marginal dark brown line; almost the entire median spaces from the subcostal to the submedian vein vitreous, here and there flecked with opaque clusters of scales. Secondaries fawn-colour, with a dark marginal line, beyond which the wing is slightly darker than at the base; the disk of the wings occupied by large vitreous patches as on the primaries. Body fawn-colour, slightly darker on the first two segments of the abdomen dorsally.

Expanse 104 mm. ♀.

Hab. Rio Janeiro.

When the male is known, this species will require a new genus.

OTHORENE ARPI, sp. nov.

Male. Primaries deep yellow; the veins, inner and outer margins greyish, also a large triangular space extending along nearly the entire costal margin and defined by a darker line starting from the costal margin at one third from the base, and extending obliquely to the middle of the wing, from which point it returns to the costal margin near the apex; this greyish space becomes paler towards its extremity and includes a large yellow discal spot; a white spot at the base of the wings. Secondaries reddish. Body deep yellow; a grey and white spot on the first segment of the abdomen.

Expanse 70 mm.

Hab. Rio Janeiro, Brazil.

OTHORENE JANEIRA, sp. nov.

Male. Primaries deep yellow, tinged with purplish along the costal margin; fringe and veins dark grey; a dark grey line from the apex to the inner margin near the base, before reaching which it is formed by a basal grey line; at the base of the wings a large white spot. Secondaries deep yellow, red along the inner margin, and with a narrow dark transverse band. Body orange; reddish dorsally; a large white spot on the first segment.

Expanse 85 mm.

Hab. Rio Janeiro, Brazil.

ADELOCEPHALA INVALIDA, sp. nov.

Primaries above dark brown, tinged with purple; paler along the outer margin; a dark line, outwardly shaded with a slightly paler tint, from the apex to the middle of the inner margin; discal point

white. Secondaries above dark red; fringe yellow. Underneath: primaries reddish; beyond the transverse line, which is purplish, the wing is yellow. Secondaries underneath yellow, speckled with reddish; a transverse reddish streak; reddish along the inner margin. Thorax and first segment of abdomen dorsally orange-red; abdomen otherwise dorsally purplish red, underneath yellowish white.

Expanse 42 mm.

Hab. Rio Janeiro.

Fam. SATURNIIDÆ.

AUTOMERIS MACAREIS, sp. nov.

Male. Primaries brown, tinged with pinkish; darker beyond the outer transverse line, which extends from the middle of the inner margin to the apex; on this darker portion a marginal, wavy, lighter shade; a narrow basal transverse line; the discal spot finely outlined with dark brown. Secondaries pinkish brown; a little yellow between the ocellus and a transverse black line; the outer margin paler. The ocellus small, black, with a brownish centre containing a few white scales. Thorax brown. Abdomen reddish.

Expanse 76 mm.

The *female* is more of a pinkish grey; the space between the ocellus and transverse black line pink. Abdomen reddish brown, with broad black transverse bands.

Expanse 85 mm.

Hab. Petropolis, Brazil.

AUTOMERIS NOPALTZIN, sp. nov.

Female. Primaries violaceous brown, a basal transverse shade, and an outer dark transverse line, inwardly shaded with yellow. The discal spot dark, ill defined, containing a minute white spot. Secondaries reddish, paler along the outer margin; a large black ocellus with a light brown centre, containing three black spots speckled with white, the central spot, which is the largest, being also crossed by a white line; the ocellus is externally bordered with yellow, and beyond this there is a fine, indistinct black line. Thorax violaceous brown. Abdomen red.

Expanse 80 mm.

Hab. Paso de San Juan, Vera Cruz.

Allied to *Automeris rubrescens*, Walker.

AUTOMERIS RUBICUNDA, sp. nov.

Male. Primaries above brown; the base fawn-colour and limited by a very narrow, transverse, dark line; a lunular transverse line beyond the cell; the discal spot dark brown, oblong; a dark triangular spot on the costal margin near the apex. Secondaries above bright red; the ocellus small, black, with a brownish centre containing a few white scales: beyond this a black transverse line; a submarginal brownish band, and a marginal brownish shade on a

paler ground. Underneath the primaries are yellowish, with a large black discal spot containing a white point; a submarginal dark lunular line. Secondaries underneath reddish brown, thickly speckled with black; a white discal point, and a transverse, lunular brown line. Thorax brown, with posteriorly a number of white hairs. Abdomen reddish.

Expanse 54 mm.

Hab. Petropolis, Brazil.

AUTOMERIS TAMPHILUS, sp. nov.

Primaries above fawn-colour, tinged with reddish; the outer margin yellowish; the basal and outer transverse lines a little paler than the ground-colour; the outer line extending from near the apex on the costal margin to the inner margin at three fourths from its base. Secondaries yellowish red, the outer margin paler; the ocellus not very large, brown, circled with black and then with yellow; in its centre a minute greyish spot with a white streak; a submarginal black line inwardly edged with yellow. Head and thorax dark brown. Abdomen reddish.

Expanse male 90 mm.

Hab. Rio Janeiro, Brazil.

5. Notes on the Anatomy and Osteology of the Indian Darter (*Plotus melanogaster*). By FRANK E. BEDDARD, M.A., F.R.S.E., Prosector to the Society.

[Received March 15, 1892.]

The structure of the soft parts of both *Plotus ankinga* and *P. melanogaster* has been fairly completely described by my two predecessors, Prof. Garrod¹ and Mr. Forbes². Prof. Garrod has also given a brief account of some of the peculiarities of the third species, *P. levaillanti*, in a later paper³. So far as I am aware, the only existing account of the visceral anatomy of *P. melanogaster* is to be found in Mr. Forbes's notes upon this bird. More recently Prof. Fürbringer, of Jena, has contributed⁴ to our knowledge of this genus in his great work upon the shoulder-girdle of birds. Having recently had the opportunity—afforded me by the death, on December 31st of the present year, of a female *P. melanogaster*, which arrived at the Gardens on May 1883—of dissecting an example of that species, I have been able to make some slight additions to what is already on record about the bird. As will be easily imagined, I have only to confirm the careful work of Mr. Forbes, so far as that goes;

¹ "Notes on the Anatomy of *Plotus ankinga*," P. Z. S. 1876, p. 335.

² "On some Points in the Anatomy of the Indian Darter (*Plotus melanogaster*), and on the Mechanism of the Neck in the Darters (*Plotus*), in connexion with their Habits," P. Z. S. 1882, p. 208.

³ "Note on Points in the Anatomy of Levaillant's Darter (*Plotus levaillanti*)," P. Z. S. 1878, p. 679.

⁴ Untersuchungen zur Morphologie und Systematik der Vögel, &c., 1888.